

## **REMARKS**

Favorable reconsideration of this application is requested in view of the above amendments and the following remarks. Claims 1 and 10 are amended. The revisions to claims 1 and 10 are supported, for example, at original claim 10 and at page 10, lines 8-18 in the specification. Claims 1-12 are pending, with claim 1 being the sole independent claim.

### **Claim rejections - 35 U.S.C. § 102**

Claims 1-2, 6-7, 9, and 11-12 stand rejected as being anticipated by U.S. Patent No. 5,948,703 (Shen). Applicant respectfully traverses this rejection

Independent claim 1 is directed to a method of manufacturing a semiconductor device in patterning of a conductive film and a thin dielectric film. A first etching step includes using a mixed gas including O<sub>2</sub>. The second etching step requires increasing the flow ratio of O<sub>2</sub>. By this arrangement, it is possible to etch the conductive film so that a thickness of the dielectric film provided under the grain boundary can be held to prevent oxidation species from reaching an interface with a substrate after the first etching step. This prevents the formation of weak spots in which the thickness of the oxide film is reduced causing an undesirable bulging of a silicon oxide film. See, for example, page 4, lines 13-20 and Figure 7.

Shen is directed to a method for etching an oxide layer. However, Shen does not teach or suggest a first etching step that requires O<sub>2</sub> and a second etching step that requires O<sub>2</sub>, where a flow rate of O<sub>2</sub> is increased in the second etching step, as required by claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable over the cited reference.

In addition, claims 2, 6-7, 9, and 11-12 depend from claim 1 and are believed allowable for at least the same reasons.

Claims 1-3, 6-9, and 12 stand rejected as being anticipated by U.S. Patent No. 5,804,088 (McKee). Applicant respectfully traverses this rejection

McKee also does not teach or suggest the features of claim 1 as identified above. McKee is directed to a method of etching. However, McKee does not teach or suggest a first etching step that requires O<sub>2</sub> and a second etching step that requires O<sub>2</sub>, where a flow rate of O<sub>2</sub> is increased in the second etching step, as required by claim 1. Accordingly, Applicant respectfully submits that claim 1 is allowable over the cited reference.

In addition, claims 2-3, 6-9, and 12 depend from claim 1 and are believed allowable for at least the same reasons.

**Claim rejections - 35 U.S.C. § 103**

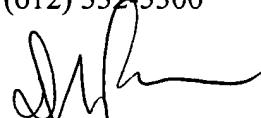
Claims 4-5 and 8 stand rejected as being obvious over Shen in view of the knowledge of one of ordinary skill in the art. Claims 4-5 also stand rejected as being obvious over McKee in view of the knowledge of one of ordinary skill in the art. Applicant respectfully traverses these rejections.

Claims 4-5 and 8 depend from allowable claim 1, which is allowable over Shen and McKee for the reasons discussed above. The reference to one of ordinary skill in the art does not remedy the deficiencies of Shen and McKee. Accordingly, Applicant therefore submits that claims 4-5 and 8 are also allowable over the cited references for at least the same reasons as claim 1. Applicant does not concede the correctness of this rejection.

In view of the above, favorable reconsideration in the form of a notice of allowance is requested.

Respectfully submitted,

MERCHANT & GOULD P.C.  
P.O. Box 2903  
Minneapolis, Minnesota 55402-0903  
(612) 332-5300



Douglas P. Mueller  
Reg. No. 30,300  
DPM:DTL

Date: December 29, 2004